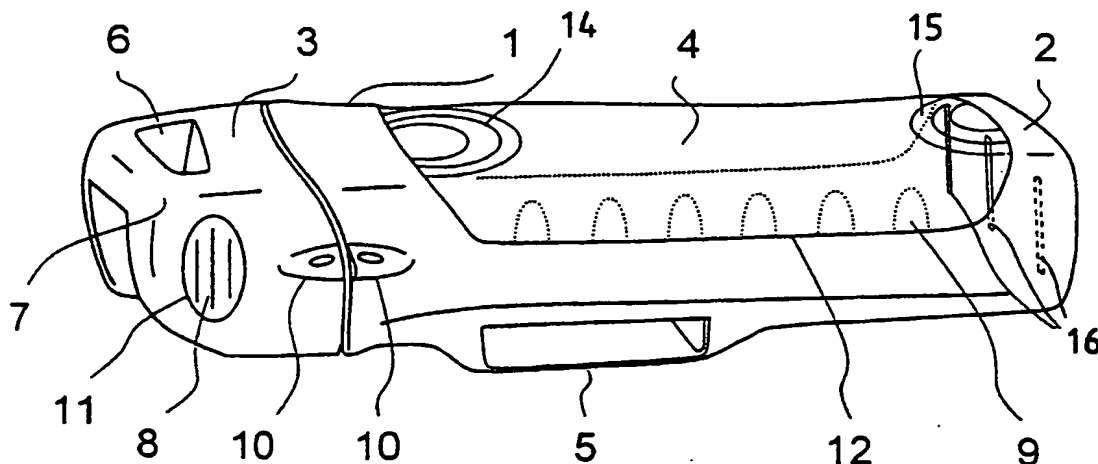




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/FI99/00705  <b>(22) International Filing Date:</b> 30 August 1999 (30.08.99)  <b>(30) Priority Data:</b> U990089 24 February 1999 (24.02.99) FI  <b>(71) Applicant (for all designated States except US):</b> MODULEO OY [FI/FI]; Ruoholahdenkatu 10 B, FIN-00180 Helsinki (FI).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> POKKINEN, Kari [FI/FI]; Pitkäjärventie 21 D, FIN-02720 Espoo (FI). UUSITALO, Jussi [FI/FI]; Helminkatu 6 A 9, FIN-00550 Helsinki (FI). KINNUNEN, Juha [FI/FI]; Kuudantie 15 B, FIN-00760 Helsinki (FI). LESKELÄ, Heikki [FI/FI]; Ruoholahdenkatu 10 B, FIN-00180 Helsinki (FI). JOKIKUNNAS, Anton [FI/FI]; Sulkupolku 6 C 5, FIN-00370 Helsinki (FI).  <b>(74) Agent:</b> PAPULA OY; Fredrikinkatu 61 A, P.O. Box 981, FIN-00101 Helsinki (FI).		<b>(81) Designated States:</b> AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>In English translation (filed in Finnish).</i>

(54) Title: MOBILE PHONE CASE



## (57) Abstract

The invention concerns a mobile telephone case (1) comprising a rigid case body (2), which is mainly made of a substantially hard material, and a capping piece (3). The basic idea of the invention is that the case body (2) has an elongated shape and is provided with a substantially watertight openable and closeable capping piece (3) at its one end, and part of the shell of the case body consists of a transparent, relatively thin and elastic material (4) so as to permit the keys of a mobile telephone inside the case to be operated through the material (4).

## MOBILE PHONE CASE

The present invention relates to a case for a mobile telephone, as defined in the preamble of claim 1.

5           Versatile use of mobile telephones and the varying conditions of their use have given rise to a need for protecting them with suitable cases. Previously known are various leather cases provided with a thin plastic film for protecting the keys of the tele-  
10   phone. The telephone can thus be used while it is in the case. However, a leather case does not protect the telephone against mechanical stress and moisture. The protection is not rain or splash resistant, to say nothing of the event of a telephone being dropped in  
15   water.

          Previously known are also hard plastic cases comprising a box and its lid made of hard plastic material which effectively protect the telephone even  
20   against hard blows. A large hard lid covers the telephone keys, so the telephone can only be used with the lid open. Due to the large lid and the difficulty of sealing it, the case is not watertight, only splash-tight at best.

          The object of the invention is to eliminate  
25   the problems referred to above. A specific object of the invention is to disclose a new type of case for a mobile telephone that will both protect the telephone against mechanical stress and provide an effective protection against moisture, even water, while still  
30   allowing continuous use of the telephone.

          As for the features characteristic of the mobile telephone case of the invention, reference is made to the claims.

          The mobile telephone case of the invention  
35   comprises a rigid case body and a capping piece, both of which are mainly made of a substantially hard material, e.g. plastic. According to the invention, the

support. The strap preferably consists of a sticker band. The capping piece may also be provided with a through hole allowing the strap to be passed through it.

5           Using suitable straps and strap holders, the mobile telephone case can be fastened to a desired place, e.g. to the railing or mast of a boat, to a bicycle or a motor cycle, to an arm, leg, neck, belt or some other suitable place.

10           In an embodiment of the invention, the width and height of the hole extending through the capping piece have been so adapted that they correspond to the diameter and height of a crown cap as used in bottles. In addition, when the arc extending across the hole is  
15 narrower than the part of the capping piece forming the bottom of the hole, the case and its capping piece can be used as a cap opener by pressing the bottom of the hole in the capping piece onto the crown cap. Thus, by placing the edge of the arc extending across  
20 the hole under the edge of the crown cap, the cap can be opened very neatly by lightly turning the entire case. The hole extending through the capping piece may naturally be any shape and size. The hole may be e.g. of a size large enough to receive one or more fingers  
25 through it, permitting the case to be e.g. carried, supported or spun around on a finger.

          The case body is preferably provided with thinned portions to allow a better audibility of voice through it. The thinned portion or portions may be in  
30 the rigid and hard part of the case body and/or in the transparent and elastic material, which even so notoriously has a better sound transmissivity. The thinned portions preferably have soft and rounded edges between them and the rest of the material. In other  
35 words, no sharp edges are used in conjunction with the thinned portions, and likewise no edges perpendicular to the surfaces to be thinned. In this way, a clear

- the case effectively protects the telephone from mechanical stress while at the same time allowing unhampered use of the telephone,

5       - the case is watertight, keeping the telephone dry even in wet conditions,

- besides being watertight, the case is capable of floating with a telephone inside it, thus allowing completely safe use of a telephone in conjunction with sailing and other aquatic sports,

10       - the case can be easily fastened in versatile ways to various places on the user or the in environment of use,

15       - the case permits excellent audibility and use of the telephone even if the telephone is inside the case all the time,

20       - in addition to the good properties regarding its use, the case is very elegant, giving a sporty, youthful and positive impression of its user, which has a great importance in commercial utilization and marketing of the product.

In the following, the invention will be described in detail with reference to the attached drawings, wherein

25       Fig. 1 presents a first embodiment of the mobile telephone case of the invention in a lateral top view,

Fig. 2 presents a second embodiment of the mobile telephone case as seen from below, and

30       Fig. 3 presents a third embodiment of the mobile telephone case in a lateral top view.

The mobile telephone case 1 presented in Fig. 1 - 3 comprises a case body 2 and a capping piece 3. The case body is of an elongated shape and only one of its narrow ends is open, with a substantially watertight/splash-proof capping piece 3 partially overlapping the case body fitted at this end. The joint between the capping piece and the case body is provided

embodiment of the device presented in Fig. 3, the thinned portions 14 and 15 are located in the hard material on the front side of the case body 2, near the upper and lower edges of the transparent part.

5 On the inner surface of the bottom of the case body 2, as shown in Fig. 1, there are three parallel ribs or protrusions 16 having a height of e.g. a few millimeters from the bottom. Thus, the bottom of the mobile telephone can never directly touch the bot-  
10 tom of the case body, where, regardless of watertightness, some water drops may sometimes appear.

The bottom of the case body 2 may also be provided with a reduced-strength zone 18, as shown in Fig. 2, allowing easy removal of a piece of material  
15 delimited by the reduced-strength zone from the bottom. In this way, an aperture is produced in the bottom, allowing the connection of required conductors to the mobile telephone. With the piece removed from the reduced-strength zone or a separate plug 19, the aper-  
20 ture can be closed watertightly again after use.

In the embodiment in Fig. 2, the back surface of the case body 2 comprises a strap holder 5, which consists of a substantially quadratic plate connected by its corners to the back of the case body so that  
25 the plate remains at a small distance from the back surface. Thus, the strap holder provides openings in four directions so that a strap of suitable width and thickness can be passed through the strap holder in two alternative crosswise directions. The plate-like  
30 part of the strap holder is provided with a hole 13, in which it is possible to attach a hook or an equivalent fastening mechanism. In addition, the plate-like part may be provided with any kind of thinned or reduced-strength areas or apertures. Using an ordinary  
35 strap provided with e.g. a textile sticker or a buckle (not shown in the figure), the mobile telephone case can be fastened to a desired place, e.g. to the rail-

## CLAIMS

1. Mobile telephone case (1), comprising a rigid case body (2) mainly made of a substantially hard material and a capping piece (3), characterized in that the case body (2) has an elongated shape and is provided with a substantially watertight openable and closeable capping piece (3) at its one end, and part of the shell of the case body consists of a transparent, relatively thin and elastic material (4) so as to permit the keys of a mobile telephone inside the case to be operated through the material (4).

2. Case as defined in claim 1, characterized in that the case (1) with a mobile telephone inside it is so designed that it is capable of floating in an upright position so that, when the case is afloat, the capping piece (3) remains completely above the water surface.

3. Case as defined in claim 1 or 2, characterized in that the case (1) comprises a strap and the case body (2) comprises a plate-like strap holder (5) connected by its corners to the case body (2) so that the strap can be passed under the strap holder in two alternative cross-wise directions.

4. Case as defined in claim 3, characterized in that the capping piece (3) comprises a hole (6) extending through it, allowing the strap to be passed through said hole.

5. Case as defined in claim 4, characterized in that the width and height of the hole (6) extending through the capping piece (3) have been so adapted that they correspond to the diameter and height of a crown cap as used in bottles to allow the hole (6) in the capping piece to be used as a cap opener.

6. Case as defined in claim 1, characterized in that the case body (2) comprises

Fig. 1

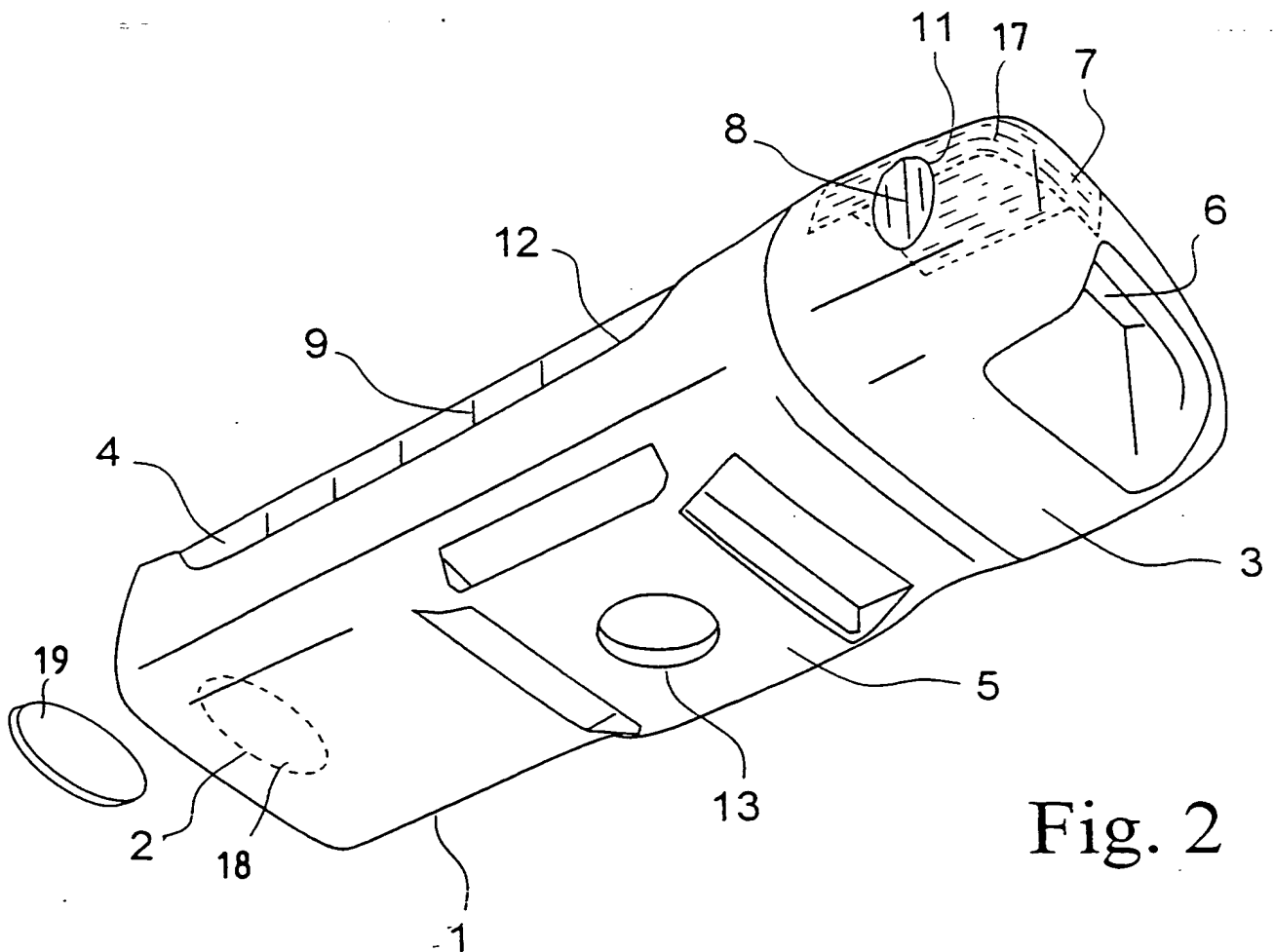
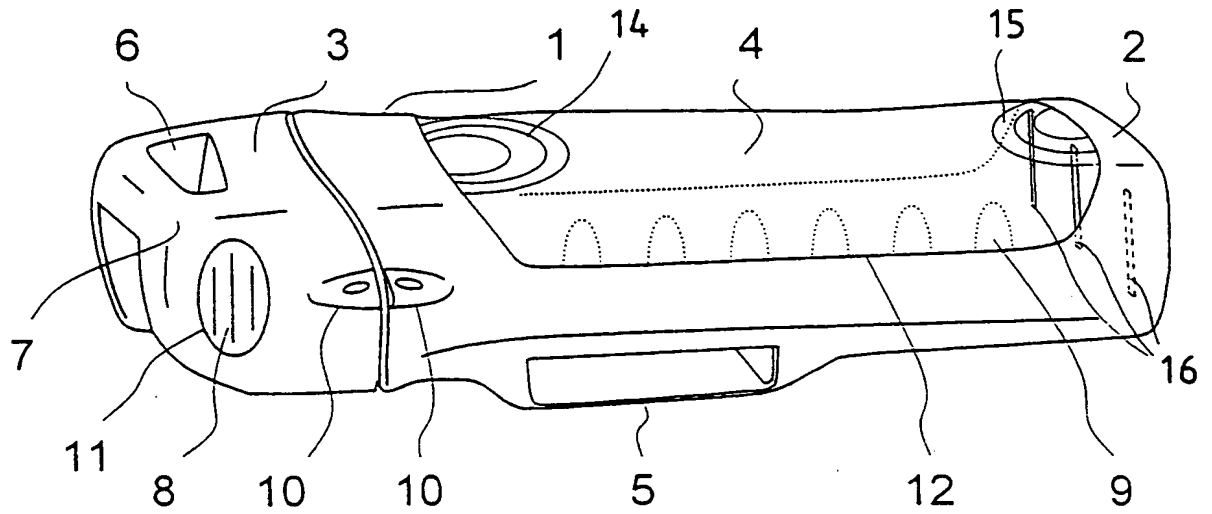


Fig. 2

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 99/00705

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
<b>IPC7: H04M 1/18</b> According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
<b>IPC7: H04B, H04M, H04Q, H05K</b>		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
<b>SE,DK,FI,NO classes as above</b>		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 29612454 U1 (TESTO GMBH & CO.), 24 October 1996 (24.10.96), page 1, line 1 - page 6, line 25, figures 1-3 --	1-11
Y	DE 19711278 A1 (DEUTSCHE TELEKOM AG), 24 Sept 1998 (24.09.98), column 1, line 22 - column 3, line 4, figures 1-2 --	1-2,6-8
Y	US 5025921 A (BERNARD V. GASPARAITIS ET AL), 25 June 1991 (25.06.91), column 1, line 55 - column 2, line 58, figures 1-2 --	1,3-4,9
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
28 December 1999		03 -01- 2000
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86		Authorized officer  Roland Landström/cs Telephone No. +46 8 782 25 00

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**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

02/12/99

International application No.  
PCT/FI 99/00705

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